

Amendment to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A trap for use with energy conversion devices comprising:

a trapping system comprising a filter element and a trap element, said filter element including a particulate filter disposed in a first chamber of said trapping system, said particulate filter including a washcoat disposed on a filter material;

a reforming system; and

wherein said reforming system is fluidly coupled to said trapping system, with said trapping system positioned after said reforming system.
2. (Original) The trap of Claim 1, further comprising a temperature sensor in electrical communication with said trapping system.
3. (Original) The trap of Claim 1, further comprising a pressure differential sensor is coupled to said trapping system.
4. (Original) The trap of Claim 1, further comprising a reformat control valve is coupled to said trapping system.

5. (Original) The trap of Claim 4, wherein said reformat control valve is coupled to said trapping system.
6. (Original) The trap of Claim 4, wherein said reformat control valve is coupled to a waste energy recovery burner device.
7. (Original) The trap of Claim 1, further comprising a solid oxide fuel cell coupled to a reformat control valve, wherein said reformat control valve is coupled to said trapping system.
8. (Original) The trap of Claim 1, further comprising a waste energy recovery burner device coupled to a reformat control valve, wherein said reformat control valve is coupled to said trapping system.
9. (Cancelled).
10. (Currently amended) The trap of Claim ~~[[9]]~~ 1, wherein said particulate filter further comprises a material having a sufficient porosity to permit passage of reformat, and filter and remove a particulate matter from a reformat.
11. (Currently amended) The trap of Claim ~~[[9]]~~ 1, wherein said particulate filter further comprises a filter material selected from the group

consisting of ceramic, metallic, cermet, carbides, silicides, nitrides, composites, and combinations comprising at least one of the foregoing materials.

12. (Currently amended) The trap of Claim ~~[[9]]~~ 1, wherein said particulate filter further comprises a catalyst disposed on a filter material.

13. (Original) The trap of Claim 12, wherein said catalyst further comprises a catalyst material selected from the group consisting of platinum, palladium, rhodium, nickel, iron, cobalt, molybdenum, tungsten, vanadium, niobium, tantalum, their oxides and sulfides, and combinations comprising at least one of the foregoing catalyst materials.

14. (Cancelled).

15. (Currently amended) The trap of Claim ~~[[14]]~~ 1, wherein said washcoat further comprises a washcoat material selected from the group consisting of aluminum oxide, silicon oxide, zirconium oxide, titanium oxide, cerium oxide, and combinations comprising at least one of the foregoing washcoat materials.

16. (Original) The trap of Claim 1, wherein said trap element further comprises a sulfur adsorber material selected from the group consisting of nickel, iron, zinc, copper, molybdenum, manganese, vanadium, niobium, cobalt,

their alloys and oxides, and combinations comprising at least one of the foregoing sulfur adsorber materials.

17. (Original) The trap of Claim 1, wherein said trap element further comprises a sulfur adsorber material selected from the group consisting of carbonates zeolitic matter, non-zeolitic matter, and combinations comprising at least one of the foregoing sulfur adsorber materials, wherein said non-zeolitic matter is selected from the group consisting of phosphates, molybdates, alumina containing equivalents, and combinations comprising at least one of the foregoing non-zeolitic matter.

18. (Original) The trap of Claim 1, wherein said trap element further comprises a sulfur adsorber material selected from the group consisting of sodalites, scapolites, cancrinite structure type alumino-silicates, and combinations comprising at least one of the foregoing sulfur adsorber materials.

19. (Original) The trap of Claim 1, wherein said trapping system further comprises a first chamber and a second chamber, wherein said first chamber further comprises said filter element, wherein said second chamber further comprises said trap element.

Claims 20-37 (Cancelled).

38. (New) The trap of Claim 1, wherein said trap element further comprises a sulfur adsorber material.

39. (New) The trap of Claim 38, wherein said sulfur adsorber material is selected from the group consisting of nickel, iron, zinc, copper, molybdenum, manganese, vanadium, niobium, cobalt, their alloys and oxides, and combinations comprising at least one of the foregoing sulfur adsorber materials.

40. (New) A trap for use in a system including a reformer and a fuel cell, said trap comprising:

a shell;

a first chamber positioned within said shell, said first shell including a particulate filter; and

a second chamber positioned within said shell, said second chamber including a sulfur adsorber material,

wherein said trap is fluidly coupled with the reformer and the fuel cell, and wherein the trap is positioned between the reformer and the fuel cell.

41. (New) The trap as in Claim 40, further comprising an insulation material positioned between said shell and said first and second chambers.

42. (New) The trap as in Claim 40, wherein said particulate filter including a catalyst material.

43. (New) The trap as in Claim 40, wherein said particulate filter provides a surrounding wall internally connected by a plurality of interlaced internal walls.

44. (New) The trap as in Claim 43, wherein said interlaced walls define a plurality of inlet and outlet channels that extend to opposite ends of said particulate filter.

45. (New) The trap as in Claim 43, wherein said inlet and outlet channels have a square cross-section.

46. (New) A trap for use with energy conversion devices comprising:

a trapping system comprising a filter element and a trap element, said filter element including a catalyst, said trap element including a sulfur adsorber material;

a reforming system; and

wherein said reforming system is fluidly coupled to said trapping system, with said trapping system positioned after said reforming system.

47. (New) The trap as in Claim 46, wherein said catalyst further comprises a catalyst material selected from the group consisting of platinum, palladium, rhodium, nickel, iron, cobalt, molybdenum, tungsten, vanadium, niobium, tantalum, their oxides and sulfides, and combinations comprising at least one of the foregoing catalyst materials.

48. (New) The trap as in Claim 46, wherein said sulfur adsorber material selected from the group consisting of nickel, iron, zinc, copper, molybdenum, manganese, vanadium, niobium, cobalt, their alloys and oxides, and combinations comprising at least one of the foregoing sulfur adsorber materials.